

## MODERN TRAFFIC BATTERS CONCRETE ROADS IN VAIN

Ceaseless Hammer and Grind of Big Trucks and Automobiles Have Slight Effect On Stony Surface

What is meant by a "good road"? Let's get down to fundamentals. A good road is one which is always ready and safe for all kinds of traffic. A path in the woods may be a good road—for a few men, but increase the number of men and the path soon becomes muddy or dusty—a bad road. A dirt road may be a good road—for a few vehicles, but multiply the vehicles in number and weight, and the dirt road becomes a bad road. So, to save money and serve traffic the road is paved to keep it good.

What should be expected from a paved road? A surface which will remain even and regular, unchanged by the hammering of heavy vehicles. Modern traffic moves rapidly and the wheels deliver an impact far greater than that of horse-drawn traffic. If the material of which the surface is constructed has not the rigidity and strength to sustain the weight and impact of passing loads, the surface will be deformed into waves, holes or ruts and the quality of evenness will be lost. A bad road—or pavement—is one that no longer has an even and regular surface. Obviously, if a paved road is to remain good—unaffected by the ceaseless hammer and grind of heavy traffic—it must be rigid, because only a rigid, non-yielding pavement can distribute the concentrated weight and impact of heavy wheel-loads over a large area of the underlying soil. That's one reason why road builders prefer concrete for highway pavements. Concrete is always rigid, no matter how hot the day. It is always ready to carry the load without yielding.

**WHAT IS CONCRETE?**  
Concrete is a combination of clean, sharp sand, crushed stone or pebbles and portland cement, mixed with water in definite proportions and allowed to harden. The cement is generally made from certain kinds of stone and shale or clay, crushed and ground very finely, then burned in a kiln to drive off the water and virtually fuse the ingredients. It comes from the kiln in the form of a hard vitreous "clinker," which when ground, becomes cement. The manufacture of cement is conducted under the watchful care of expert chemists. Add water to the cement, and it hardens into stone again. When sand and crushed stone, or pebbles, are mixed with cement and water, the mass will harden into what is called concrete or an artificial stone. Before concrete begins to harden, it is a plastic mass which can be formed into any desired shape. To make a pavement, the plastic concrete is spread upon the prepared roadbed to a depth not less than seven inches or more if required by special conditions, finished to an even surface, and allowed to harden. In this way the roadbed is "armored" with a rigid, unyielding slab of enduring

stone—and you have a concrete road.

**WHY CONCRETE ROADS ARE POPULAR.**  
Concrete roads are rigid. They distribute the pressure of heavy vehicle loads to a large area of the underlying soil. When the soil lacks reliable bearing power, as in the case of sandy clay or soft loams, concrete roads may be reinforced with steel rods or heavy steel wire mesh, to resist the bending stresses caused by the shock of traffic. This reinforcement affords an additional factor of safety at locations where, for any reason, unstable soil conditions exist or may develop. Concrete is the only paving material in which steel reinforcing can thus be used to give the increased strength required. Because they are rigid and can be built strong enough for any traffic, concrete roads are more widely used than any other type of highway surface. The people have learned to depend upon concrete roads. That's why concrete roads are being built and used everywhere. It's not the result of a sudden impulse. It's the result of public confidence justified by long experience.

**CRACKS IN CONCRETE ROADS.**  
Concrete expands and contracts slightly with changes in temperature. Sometimes, in contracting, cracks appear in the surface. These unfamilial cracks are sometimes alarming, but they are not serious. Such cracks, when they do appear, in no way affect the smooth riding qualities, nor do they tend to shorten the useful life of the pavement. Road building engineers of wide experience in all sections of the country give little or no serious thought to the cracks that may develop in a well-built concrete road.

At Bellefontaine, O., there are concrete pavements on the principal business streets which were laid in 1893. Today, after 29 years, those pavements are in perfect service. A few cracks are in evidence, but they have not shortened the life, nor affected the service-giving quality of the pavement in any way.

**CONCRETE ROADS ECONOMICAL.**  
Experienced road builders all say that the annual upkeep cost of concrete roads runs from \$50 to perhaps \$150 per mile per year. Usually it is less than \$50 per mile per year for the pavement alone. This is because the concrete road has a rigid surface—it is built that way, and stays that way. If the surface were non-rigid and yielding, the traffic would cause holes and ruts. This happens to gravel, macadam and other roads under heavy traffic. If a flexible instead of a rigid binder is used to build the particles of the macadam together, the traffic may deform that surface by pounding it into depressions and "waves." Such a surface cannot stay even and regular, because it is not rigid. In-

### JUST ONE MINUTE!

You can read this in one minute.  
By the time you reach the last line, property worth \$923 will have been destroyed by fire somewhere in the United States.  
Minute after minute, day after day, on the average, this appalling pace keeps up, to a grand yearly total of \$485,000,000.  
That, at least, was the record in 1921. What the showing will be this year, and in the years to come depends, in large measure, on you.

Ninety per cent of all fires are preventable, for they are due to carelessness.  
Take a look in your cellar, your attic, that closet. Clear out the rubbish—the old stuff stored away because "maybe some day we'll find a use for it." Many fires about the house are born in trash piles.  
While insurance marks the difference between protection and destitution, every American home has its treasured possessions whose value cannot be computed in terms of money and can never be replaced.  
A minute's thought now may save the patient accumulation of a lifetime from the ravages of fire.  
After all, it's chiefly a matter of protecting your own dwelling and those whose presence there makes it home.  
Isn't it worth a minute to you?

### BUILDING TAKES SPURT IN AUGUST

Fairly complete returns of August building expenditures are rather at variance with the preliminary indications noted last week. For instance, the totals received up to the end of last week, nearly one hundred cities contributing, indicated a slight decline in August from July, but with returns from 153 cities in August shows a slight gain over July.  
Returns to Bradstreet's from 153 cities show a total expenditure permitted for July at the same cities of \$212,909,181, as against a total for August of \$254,022,461. There is here indicated a gain of 23.2 per cent over August, 1921, and a gain of 6.9 per cent over July this year. It might be mentioned, with all cities reporting, showed a decrease of 18 per cent from the peak month of June.

Employees in the state of Illinois are being advised that in conformity with the recommendations of the president's conference on unemployment, the general advisory board of the Illinois free employment service has advised a co-operative arrangement with the United States bureau of labor statistics whereby the duplication in reporting industrial information to various government agencies will be discontinued.

Investigation will show that, in contrast to concrete roads, large sums must be spent every year in the effort to keep an even surface on a road paved with non-rigid or yielding material.

## POINTS TO WAY TO BUILD HOME

Charles Bass Reveals Experiences in Acquiring Domicile

Charles A. Bass, local weather observer and city sanitary inspector, is the proud possessor of a new home. Charlie is so overjoyed that he is now his own landlord that he "tells the world" it is the only thing. He has written in his own way, a brief story of "how he did it," without being overburdened with money with which to start.

Charlie is always willing to help others get their share of good things, so he explains how any young man may follow his instructions and make his own home. Further, he invites any prospective home owner, who has not yet begun, to visit him at his new home and "get wise up."

**HIS OWN STORY.**  
In his own words, he says:  
"My landlord raised my rent when he thought his daughters or wife should have better clothes or more up-to-date appliances on his automobile, or longer vacations."

"I had to stand for the raise, first, because houses were scarce that were desirable, and second because I blew my money in like a drunkard's spree (as the saying goes). Third, because I did not have the 'get-up' in me to think for myself, that a day would come when I would need dollars instead of receipts to show that I paid my rent like a good but foolish fellow."

"Let me tell my young friends in particular that unless they make a start they will probably never own their own home, but like myself they will have nothing but a receipt to show that they paid their rent. And by all means keep those receipts."

**FINDS LOCATION.**  
"An inspiration came to me and I looked about for a location to make a home and I found it at 1342 Childs avenue. With a determination I went to a real estate dealer and paid a hundred dollars on the lot, which was then full of weeds and rank growth. The next month, instead of spending any money for clothes or anything else outside of good food, I paid my installment on my newly acquired prospective home, and then I hired a tent for a small amount and put it on the lot. I sacrificed, but after four months I had another hundred dollars saved in rent to apply on my lot."

"Getting more enthusiastic every minute (and so will you if you will only make the first start, but you must forego and deprive yourself of many little things, and it won't be long before you have receipts to show that you believe in Ogden and Utah and America, and you can do it if you agree that you can). I kept up my payments on my lot."

**GETS BACKING.**  
"Comparatively speaking I am a stranger with the moneyed people in this splendid community, but undaunted and inspired by my progress thus far, I went forward to a friend whom I suspected had some money, and told him my story. He looked a little surprised at me and asked me what kind of a house I was figuring on and how much I had paid already. When he saw he was fairly protected, he said go to it, and I did. And in consequence I have a home to work for, and I am sure proud of it."

"Take a little walk and see it, and have a heart to heart talk with me. Get acquainted with my wife, for we are going to stay here, as Ogden is good enough for us."  
"In conclusion, let me again say, make the first start, the finish, with some determination, even though it may seem slow, will soon come. In the end you will have something that you can realize on much more than a rent receipt. Own your own home. I am in no way connected with any building promoters or real estate. I am just boosting for Ogden."

Pennsylvania's bituminous coal fields contain 43,839,860,000 short tons of recoverable coal, enough to meet the demands of the next 299 years at the present rate of consumption. Of the original deposits, 5,519,775,000 tons have been mined.

## OGDEN CANYON

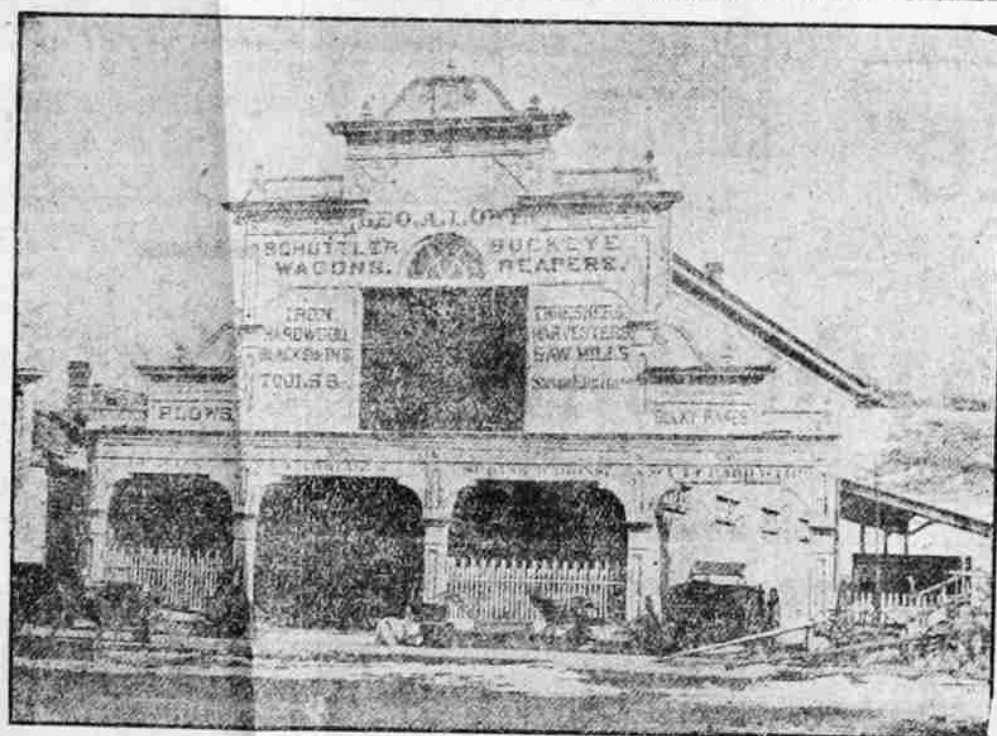
Ogden boasts one of the most beautiful canyon and mountain highways of the whole western country. Last year the State of Utah, co-operating with Weber County and the Federal Government, paved the highway leading from the city to the mouth of the canyon. The entire highway is now of Warrenite Bitulithic surface, built over the old macadam road which was reinforced with a thin bituminous concrete base (black base).

This year Ogden City built one and one-quarter miles of eighteen-foot roadway and completely finished the work in fourteen days, but the people of Ogden were not deprived of the pleasure of the canyon breezes on warm evenings during those two weeks of construction, as the roadway was thrown open every evening, and as soon as the last square yard of pavement was laid and rolled, the smooth, noiseless surface was ready for use, from Ogden to Eden.

This canyon is the playground of the city and has been made so easily accessible that a few minutes of delightful driving puts the motorists in one of Utah's real beauty spots.

### Build Warrenite Bitulithic Streets and Roads

"The Best by Every Test"  
WARREN BROS. COMPANY  
Boston, Mass.



We Started Here in 1880.



Same Location, 1922

## Miles and Minutes

The Atlantic cable is approximately 3500 miles long. Yet, to the newspapers, London is only a few minutes from New York. Your paper tells you about happenings in the Old World within a few hours of their occurrence. For newspaper enterprise has reduced those miles to minutes.

How far back we would go without newspapers! We would remain in ignorance, not only of events at home and abroad—but also of much that concerns us even more vitally—news of the things that have to do with our personal, every-day lives.

Every day new things appear—new products that save time, labor and money are introduced—new comforts, new conveniences and new ideas are continually being worked out and offered for your benefit.

The advertisements bring you news of all this progress. They tell you all about these things, where to get them, how to get them and how much to pay for them. The advertisements are daily directories to wise buying.

READ THE ADVERTISEMENTS. Protect yourself in your buying, by getting the products which have proved their worth by making good under the spotlight of consistent publicity.



Read the advertisements and buy  
advertised products